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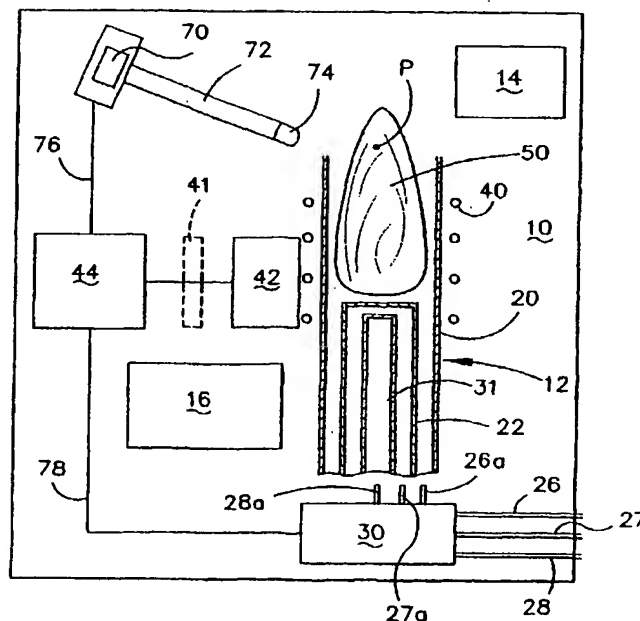
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(54) Title: **PLASMA TORCH SPECTROMETER**



(57) Abstract: A spectrometer is disclosed which comprises a plasma torch (12) and an induction coil (40) for generating a normal plasma (P) within the torch. The torch (12) has an outer tube (20) and an inner tube (22). If the plasma (50) collapses from a normal plasma state to a toroidal or faulty plasma shape (52), a photodiode (70) detects the change in shape so that the plasma torch can be shut down to prevent the plasma shape (52) from melting the tube (20) of the torch.



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